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EFECTIS ERA AVRASYA

Fire Test Laboratory

TÜRKAK
Test
TS EN ISO/IEC 17025
AB-0556-T

Accredited Body
No: AB-0556-T

CLASSIFICATION OF FIRE RESISTANCE PERFORMANCE IN ACCORDANCE WITH EN 13501-2:2007+A1:2009

Sponsor	: AHŞAP ÜRÜN SAN. A.Ş. Emek Mah. Sivat Cad. No:7 34785 Sancaktepe, İSTANBUL / TURKEY
Prepared by	: EFECTIS ERA AVRASYA Test ve Belgelendirme A.Ş. TOSB TAYSAD Organize San. Böl. 1. CD. 15. Yol No: 1 Şekerpınar - Çayırova KOCAELİ / TURKEY
Product name	: *Single Leaf Timber Entrance Door "**FD60**"*
Classification report No.	: EEA – 15 - 087
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1. INTRODUCTION

This classification report defines the classification in accordance with the procedures given in EN 13501-2:2007+A1:2009, assigned to *Single Leaf Timber Entrance Door "**FD60**"*.

2. DETAILS OF CLASSIFIED PRODUCT

2.1. General:

The element, *Single Leaf Timber Entrance Door "**FD60**"*, is defined as a type of product.

2.2. Description:

*Single Leaf Timber Entrance Door "**FD60**"* is fully described below.

2.2.1. General

Product identification : Single Leaf Timber Entrance Door "**FD60**"

Direction of fire : Opening into the fire

Manufacturer : AHŞAP ÜRÜN SAN. A.Ş.
Emek Mah. Sivat Cad. No:7 34785 Sancaktepe, İSTANBUL / TURKEY

Sponsor of test : AHŞAP ÜRÜN SAN. A.Ş.
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2.2.2. Construction

Single action timber door construction, Single Leaf Timber Entrance Door "**FD60**" was mounted in a masonry supporting construction, made of aerated concrete blocks with the mounting clearances dimensions of 980 x 2110 mm (*w x h*).

The supporting construction was supplied by the test laboratory (Efectis Era Avrasya) and consisted of aerated concrete blocks which have a density of 450 kg/m³ and thickness of 150 mm.

2.2.3. Components

2.2.3.1. *Door Frame:*

The frame and the jamb consisted of MDF covered by oak veneer. Polyurethane foam was used between the frame and supporting construction. Acrylic sealant was used between the supporting construction and the jamb. Intumescent fire seal was used at contact points of the leaf and the frame. PVC acoustic seal was used at rebated edges of the frame.

- *Type : MDF (2 layers), Density: 800 kg/m³*
- *Dimensions :*
  - *Frame studs : 30/44 x 150 x 2059/2090 mm (w x d x h)*
  - *Frame header : 30/44 x 150 x 991 mm (w x d x h)*
  - *Jamb : 67 x 2143 x 12 mm (w x h x t)*
- *Filler : Between supporting construction and the frame.*
  - *Type : Polyurethane based fire rated expanding foam – MAD WOLF B1.*
- *Sealant : Between supporting construction and the jamb.*
  - *Type : Intumescent acoustic acrylic mastic – ASTROFLAME.*
- *Seals :*
  - *Type : PVC Acoustic seal – LAS1212 – Batwing® LORIENT*
    - *Dimensions : 12 x 12 mm (w x h)*
    - *Location : Rebated edges of the frame.*
  - *Type : Intumescent fire seal – LORIENT*
    - *Dimensions : 15 x 4 mm (w x t)*
    - *Locations : Contact points of the leaf and the frame.*
- *Veneer :*
  - *Type : OAK veneer (pirmer), DEWILUX lake veneer (topcoat)*
    - *Thickness : 0,5 mm (primer), 0,2 mm (topcoat).*

See figure 1-8 for details.

2.2.3.2. *Leaf:*

The leaf was consisted of FALCON panel covered by oak veneer. Solid oak was used inside the leaf. Threshold seal was fitted in bottom edge of the door leaf.

- *Dimensions : 892 x 2049 x 55 mm (w x h x t)*
- *Inner Layer :*
  - *Type : Chipboard door core – Strebord FD60 - FALCON*
    - *Nominal thickness : 54 mm.*
    - *Nominal density : 575 ± 35 kg/m³.*
  - *Type : Solid oak hardwood*

- *Nominal density : 650 kg/m³.*
- *Dimensions : 38 x 13 mm (w x t)*
- *Location : Edges of the door leaf.*

- *Seal :*
  - *Type : Threshold seal – SEALZ*
    - *Dimensions : 33 x 12 x 930 mm (h x t x l)*

- *Veneer :*
  - *Type : OAK veneer (pirmer), DEWILUX lake veneer (topcoat)*
    - *Thickness : 0,5 mm (primer), 0,2 mm (topcoat).*

See figures 1 and 3-8 for details.

2.2.3.3. Accessories:

- *Hinges :*

The leaf was hung on three steel hinges.

- *Type : Stainless steel concealed bearing hinge – Grade 13 ARRONE*
  - *Dimensions : 102 x 76 x 3 mm (w x l x t)*
  - *Locations : 220 mm from top and bottom of the door leaf and 622 mm from top of the door leaf.*
  - *Insulation : Intumescent pack – LORIENT, Thickness: 1 mm*

- *Lock:*
  - *Type : Electronic lock - Signature RFID - VINGCARD*
    - *Location : 1050 mm from bottom of the door leaf.*
    - *Insulation : Graphite intumescent pack – NORSEAL, Thickness: 2 mm*

- *Door handle:*
  - *Type : Wing handle, Signature RFID - VINGCARD*
    - *Location : 1050 mm from bottom of the door leaf.*

- *Self-closing device:*
  - *Type : Concealed Door Closer – Geze Boxer*
    - *Location : 94,5 mm from edge of the door leaf.*
    - *Insulation : Intumescent pack – LORIENT, Thickness: 2 mm*

See figures 1-2 and 4-7 for details.

3. REPORTS AND RESULTS IN SUPPORT OF CLASSIFICATION

3.1. Reports

Name of laboratory	Name of sponsor	Test report ref. no.	Test method
EFECTIS ERA AVRASYA Test ve Belgelendirme A.Ş.	AHŞAP ÜRÜN SAN. A.Ş.	RFTR15095	EN 1634-1:2014

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3.2. Results

Test method	Parameter	Results
EN 1634-1:2014	Integrity, (E) – Cotton pad – Gap gauges ∅ 6 mm ∅ 25 mm – Flames longer than 10 sec.	 no failure (not applied) no failure (not applied) no failure (not applied) Not observed
	Insulation:, [I] – average temperature – maximum temperature	 no failure no failure
The heating was terminated at 69th after consulted with the sponsor.		

4. CLASSIFICATION AND FIELD OF APPLICATION

4.1. Reference of classification

This classification has been carried out in accordance with clause 7.5.5 of EN 13501-2:2007+A1:2009.

4.2. Classification

*Single Leaf Timber Entrance Door "**FD60**"* is classified according to the following combinations of performance parameters and classes:

FIRE RESISTANCE CLASSIFICATION	
Direction: Opening away from the fire and into the fire	
Category A	Category B
E60, $EI_2$60, $EI_1$60	**E60, $EI_2$60, $EI_1$60**

4.3. Field of application

4.3.1 General

This report details the method of construction, the test conditions and the results obtained when the specific elements of construction described herein was tested following the procedure outlined in EN 1363-1:2012, and when appropriate EN 1363-2:1999. Any significant deviation with respect to size, constructional details, load stresses, edge or end conditions other than those

allowed under the field of direct application in the relevant test method is not covered by this report

Except if otherwise specified hereafter, the design of the door-unit shall be identical to that of the test specimen. It is not allowed to modify the number of door leaves and the operating mode (e.g. swing door or pivoted door, single or double acting door).

4.3.2 Specific Restrictions Concerning Materials And Structures

4.3.2.1 Timber construction

It is not allowed to decrease the thickness of the door leaf or leaves but it is allowed to increase provide increase in weight up to 25%.

It is not allowed to change the composition (e.g. type of resin) of timber based products(e.g. particle board, blockboard etc.).

It is not allowed to reduce dimensions and/or the density of the timber frames but it is allowed to increase dimensions and/or the density of the timber frames.

4.3.2.2 Decorative coatings

4.3.2.2.1 Paint

It is allowed to use alternative paintings to door leaves or frame parts since the used painting was not contributed to fire resistance.

4.3.2.2.2 Timber veneers

Decorative laminates and timber veneers up to 1,5 mm thickness are allowed to be added to the faces (but not the edges) of leaves and frames in doorsets which satisfy the insulation criteria (Allowed for only: $EI_1 60, EI_2 60$)

4.3.2.3 Fixings

It is permitted to increase the number of fasteners used to attach the fire resistant doors onto the supporting structures but it is not allowed to be reduced, and it is allowed to reduce the distance between the fasteners but it is not allowed to be increased.

4.3.2.4 Hardware

It is allowed to increase the number of movement-limiting devices such as locks, bolts and hinges but it is not allowed to be reduced.

Where self-closing characteristics are not required, it is allowed to remove closing device.

4.3.3 Permissible Size Variations

4.3.3.1 General

Doors with dimensions which are different from those of the test specimens shall be permitted within some extent, but variations depend on the type of product and on the time during which the fire resistance criteria are met.

The increase and decrease of dimensions permitted by the field of direct application are applicable to the overall size of each leaf, each side panel, each transom panel and each over panel independently and including ant rebates which may be present on the leaf or panel.

The limits of permitted size variation are given in Annex B of the standard EN 1634-1:2014.

4.3.3.2 Dimension variations according to the type of product

4.3.3.2.1 Permissible dimension variations of the leaf

The amount of variation of size permitted is dependent on whether the classification time was just reached (category 'A') or whether an extended time (category 'B' overrun) in accordance with the following values was fulfilled before the test was concluded.

Classification time	All performance criteria fulfilled for at least
15 minutes	18 minutes
20 minutes	24 minutes
30 minutes	36 minutes
45 minutes	52 minutes
60 minutes	68 minutes

Consequently, increase of the dimension is only valid in case of related performance about "Category B overrun" is achieved in Clause 8, Table 2.

a) Category A classification:

Due to the Category A classification door, no size increase is allowed. The reduction of the metal doorset is limited at %75 in height and % 50 in width.

b) Category B classification:

Overall dimension of the leaf	Min.	Max.
Height	512,25 mm (% 75)	2356,35 mm (%15)
Width	446 mm (% 50)	1025,8 mm (%15)
Area	-	2,193 m^2 (%20)

Size increases are only allowed for the doorsets provided that used with the gaps indicated in the table below:

	Average measured	Maximum measured	Practical maximum allowed
A	5,0	5,0	7,0
B	3,3	4,0	5,6
C	4,7	6,0	7,3
D	3,3	4,0	5,6
E	2,7	3,0	4,8
F	3,7	5,0	6,8
G	3,0	4,0	5,5

4.3.3.2.2 Other changes

For doors with smaller dimensions, the relative position of the movement-limiting devices (e.g. hinges, bolts, etc.) shall remain identical to that of the test specimen, or any modification in the

distance between them shall be limited to the same reduction percentage as the dimension reduction of the test specimen.

It is not allowed to change the relative position of the movement-limiting devices (Hinges, bolts, etc.). It is permitted to modify the distance with the same percentage for the reduction of the test specimen.

For larger doorset sizes the following also must be applied (Category B):

1) The height of the latch above floor level must be equal to or greater than the tested height, and the maximum of any change in height must be proportional to the increase in doorset height;

2) The distance of the top hinge from the top of door leaf must be equal to or less than that tested;

3) The distance of the bottom hinge from bottom of door leaf must be equal to or less than that tested.

4) For three hinges or distortion preventers are used, the distance between bottom of the door leaf and centre restraint must be equal to or greater than tested.

4.3.3.2.3 Timber construction

It is not allowed to change the number, size, location and orientation of any joints in the timber framing.

It is not allowed substitute with alternatives of lesser thickness or strength for decorative timber veneers that have more than 1.5 mm thick or other claddings which themselves provide constructive benefits are part of the test specimen.

4.3.4 Supporting Construction

Rigid block with a density of at least 450 kg/m^3, having a thickness of at least 150 mm.

Flexible construction (partition wall) with a minimum EI60 classification according to EN 13501-2:2007+A1:2009 standard.

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5. LIMITATIONS

This classification report does not represent any type approval or certification of the product.

Signed:

.....
Sinem ÖZTÜRK
Person in the charge of tests

TEST VE BELGELENDİRME A.Ş.
efectis era Eurasia

Approved:

.....
Onur DAĞ
Operation Manager

Drawings:

Figure 1: Exposed side view of the Door.

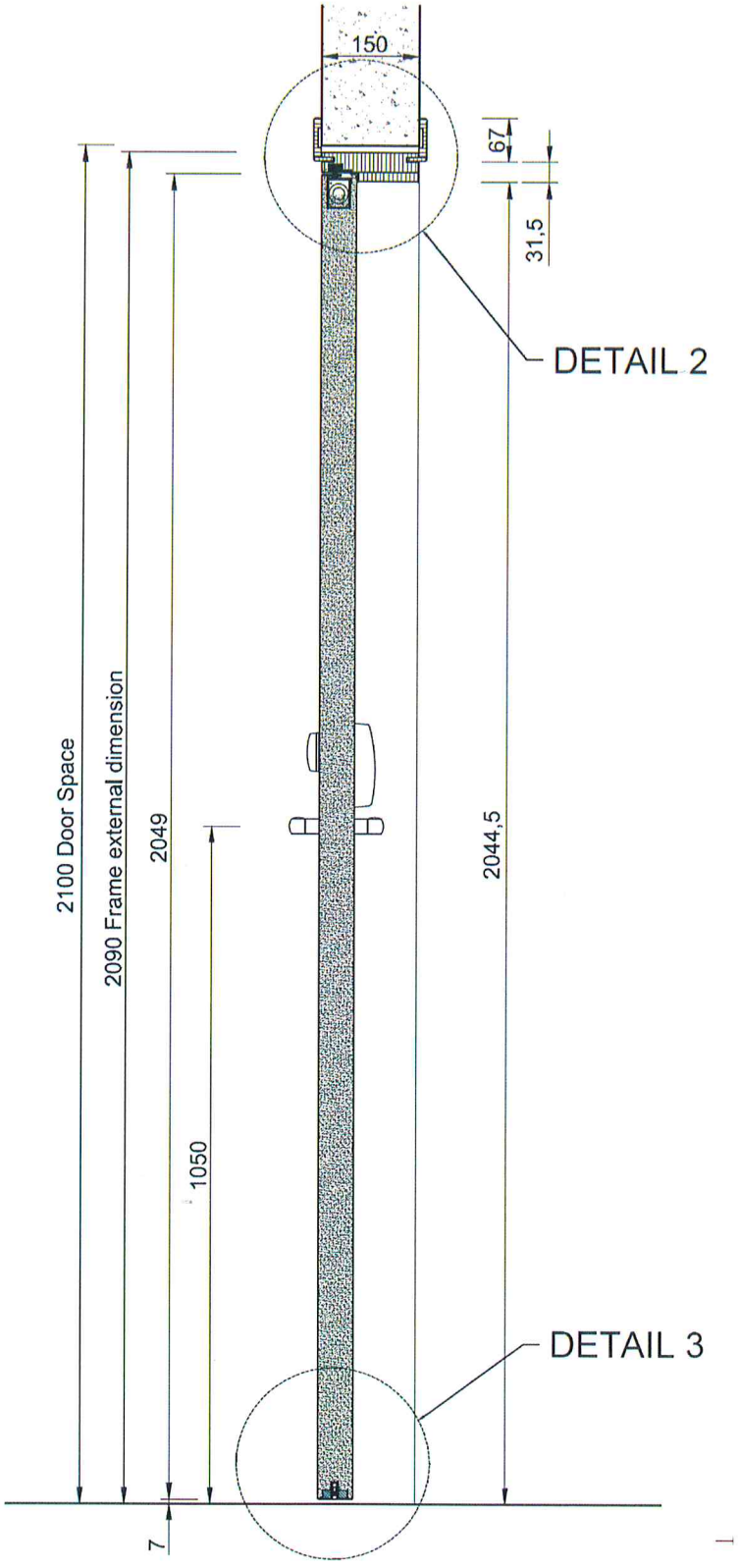

Figure 2: Longitudinal section view of the door.

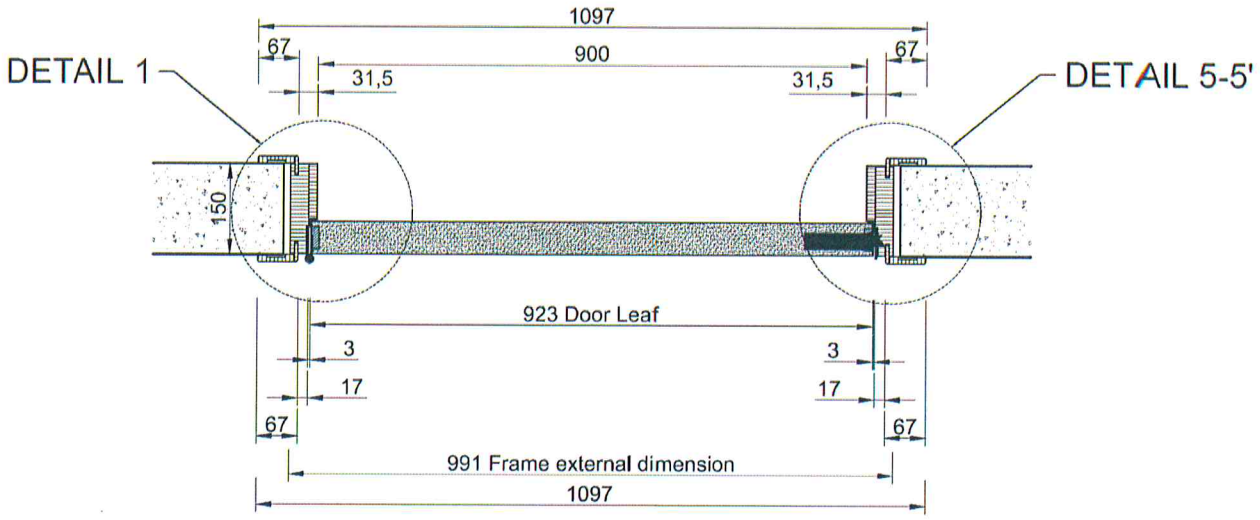

Figure 3: Cross section view of the door.

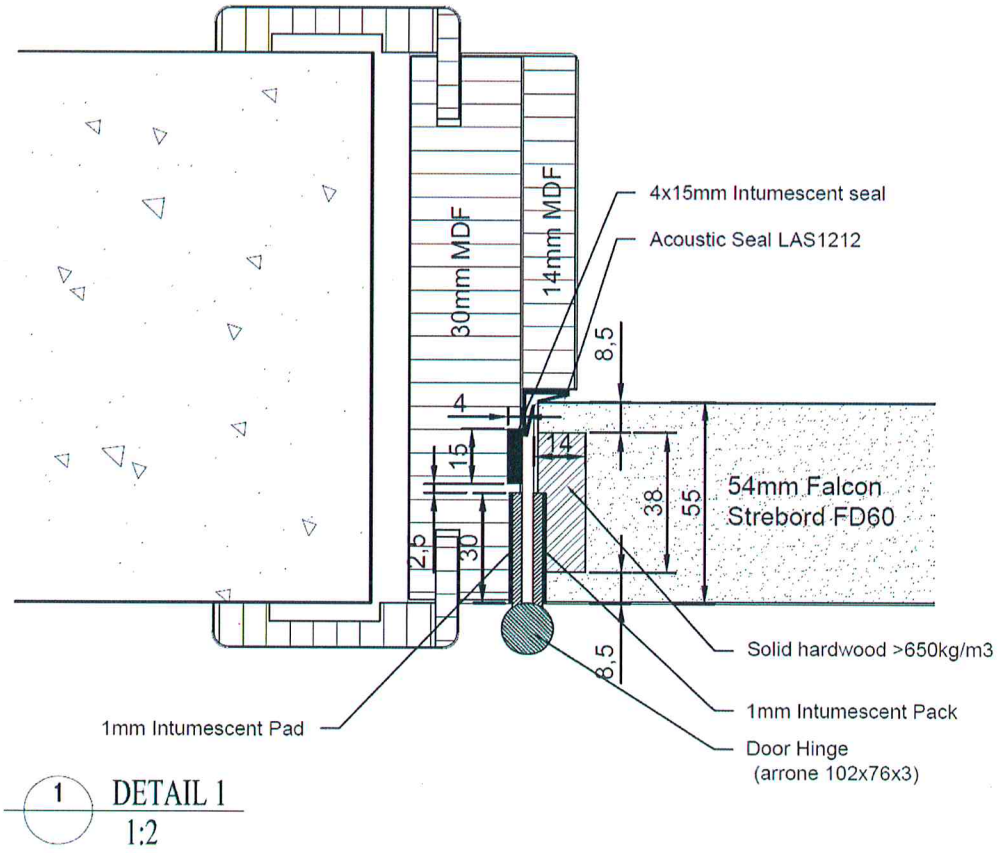

Figure 4: Cross section details (Detail 1).

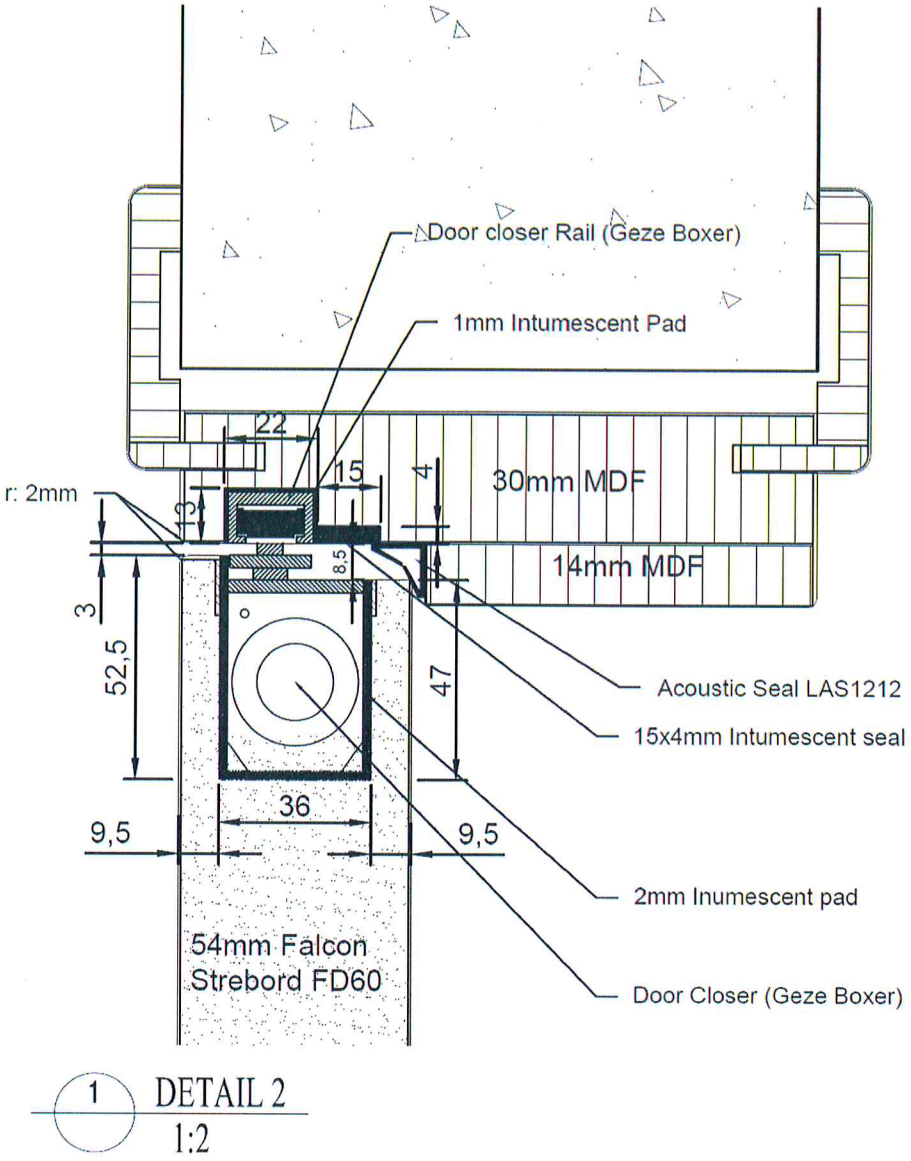

Figure 5: Longitudinal section details (Detail 2).

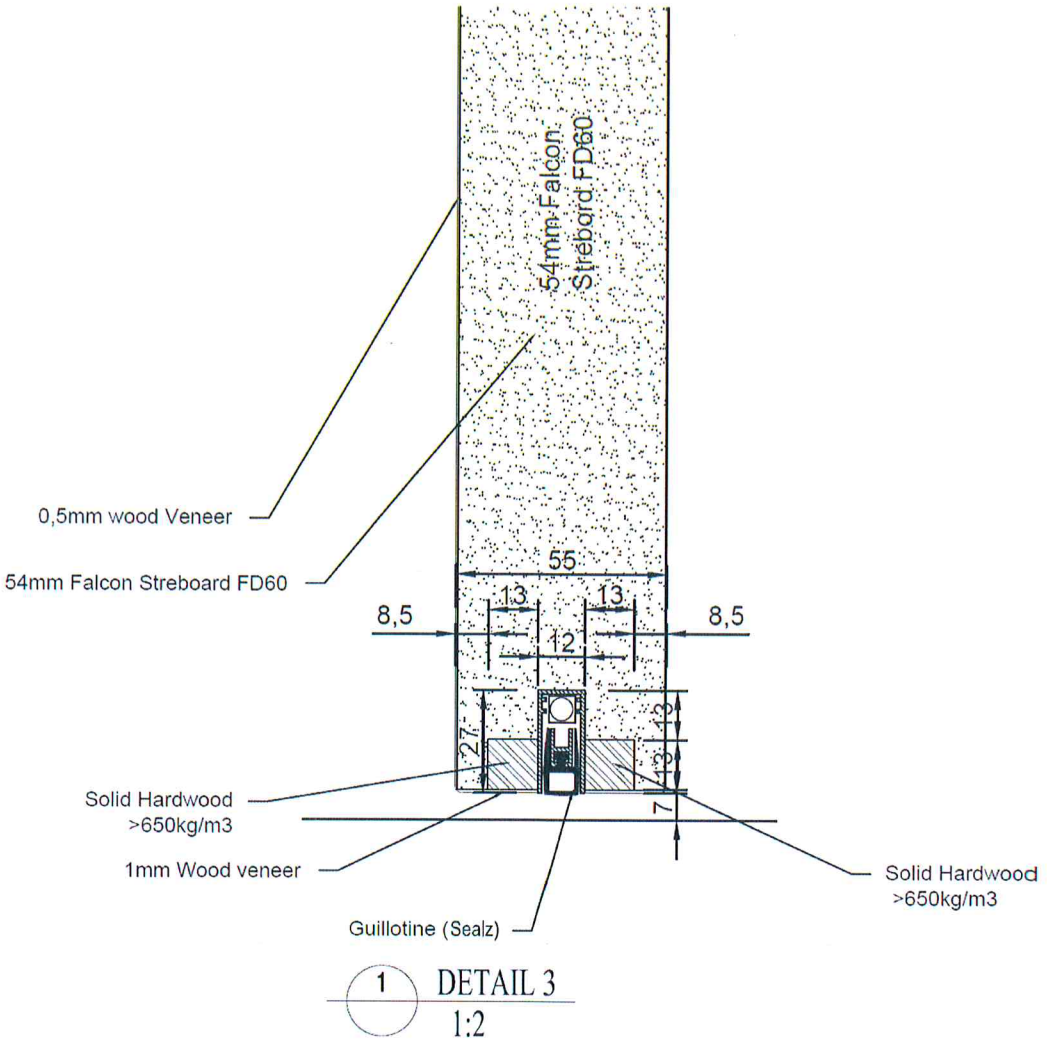

Figure 6: Longitudinal section details. (Detail 3).

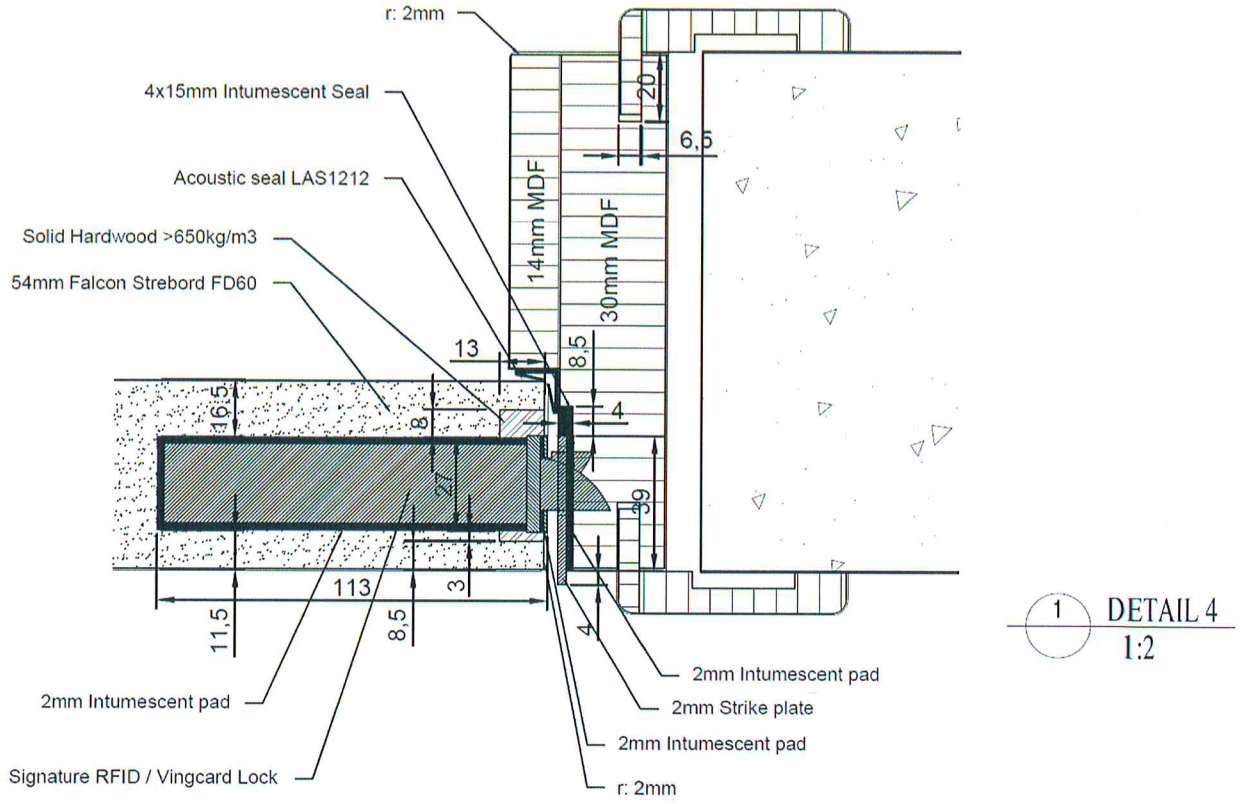

Figure 7: Cross section details (Detail 4).

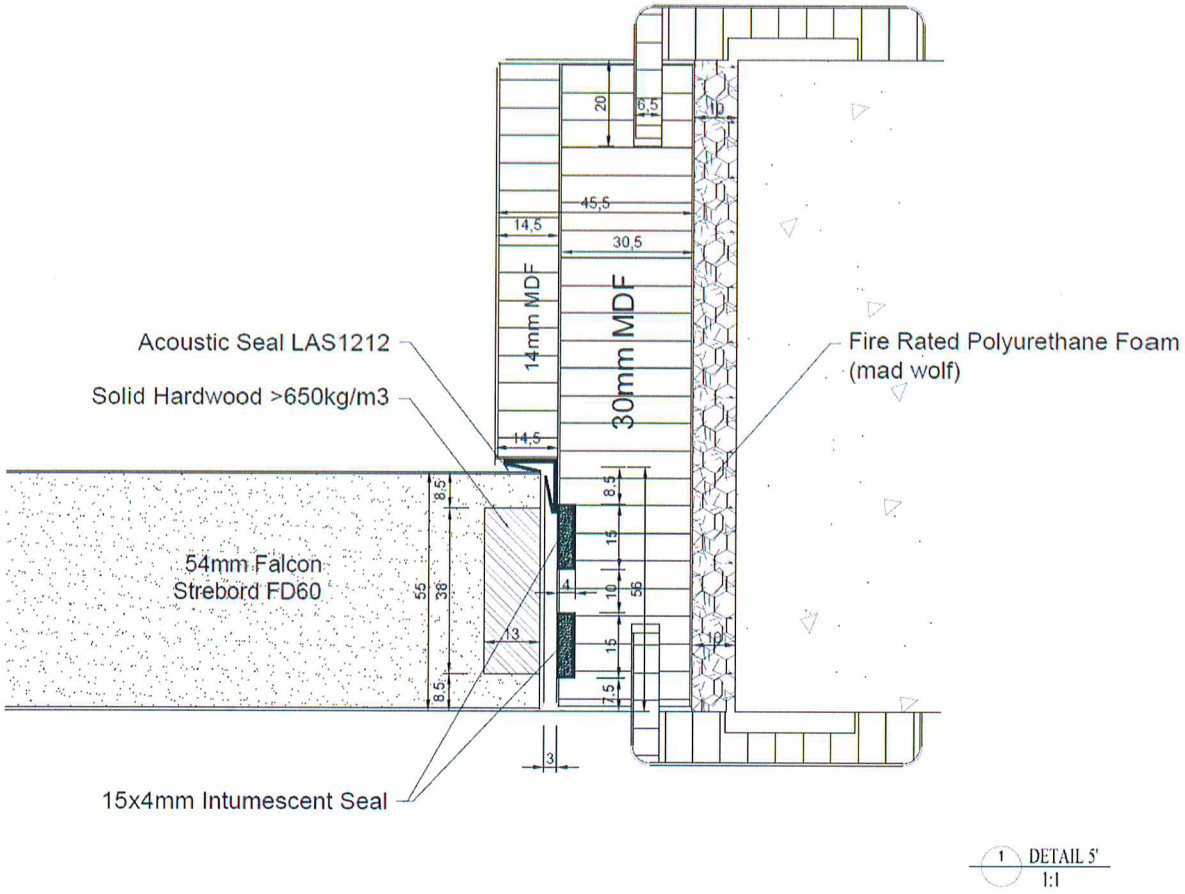

Figure 8: Cross section details (Detail 5).